

*SAC* What I claim as my inventions are:

1. The apparatus or the effluent discharge system comprising at least the basic elements of an intake port, which is located at or close to the reservoir bottom; a discharge port, located on the downstream side of the reservoir; and the connecting piping between the intake and discharge for transport the sediments laden influent from the intake through the reservoir boundary barrier to the discharge; whereas the elevation height of the discharge port of the system, relative to the intake, is set at or below the highest allowable elevation height that suffices to develop adequate pressure differential between the system's intake and discharge to cause the influent flow to entrain and pick up sediments/silt, to carry them through the system pipeline, and to discharge them on the down stream side of the reservoir for the purposes of preserving or increasing the reservoir's usable water storage capacity, for collecting valuable sediments, or for other useful purposes.
2. The method of discharging reservoir sediments, facilitated with the use of the apparatus of Claim No. 1 above, by drawing the discharge water and/or slurry from the reservoir bottom or close to the bottom at fluidizing velocity to cause the sediments/silt to be entrained and picked up by the influent flow, and then forcing the sediments laden water through the apparatus's pipeline to discharge them on the downstream side of the reservoir; wherein the driving force for the task is primarily drawn from the reservoir water's hydrostatic head by setting the elevation height of the apparatus's discharge at or below that suffices to develop adequate pressure differential between the apparatus's intake and discharge to provide the driving force, with or without any additional external supplied energy or pump as supplement.
3. The method of powering underwater machinery by installing suitable fluid drive assembly onto the intake pipe of the effluent discharge system of Claim No. 1 above with the added load for powering the machinery, or by installing suitable fluid drive assembly onto other apparatus similarly constructed but is engineered primarily to develop sufficient pressure differential and water flow velocity for powering the machinery, with or without the requirement for discharging sediments.